



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/544,288	04/27/2006	Christian Bruelle-Drews	11336/1061 (P02089US)	9938
81165 7590 11/20/2009 HARMAN - BRINKS HOER INDY Brinks Hofer Gilson & Lione CAPITAL CENTER, SUITE 1100 201 NORTH ILLINOIS STREET Indianapolis, IN 46204-4220				
EXAMINER				
PATTON, SPENCER D				
ART UNIT		PAPER NUMBER		
3664				
MAIL DATE		DELIVERY MODE		
11/20/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/544,288

Applicant(s)

BRUELLE-DREWS, CHRISTIAN

Examiner

SPENCER PATTON

Art Unit

3664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7-10,13-27,29,30 and 36-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,5,7-10,13-27,29,30 and 36-38 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-544)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment filed 7/30/2009 has been entered. Claims 2, 4, 11, and 31-35 have been cancelled. Claims 1, 3, 5, 7-10, 13-27, 29, 30, and 36-38 are pending.

Claim Objections

2. Claim 38 is objected to because of the following informalities: On line 4, "one of plurality" should be replaced with --one of the plurality--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1, 15, and 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.
5. Claim 1, lines 9-15; claim 15, lines 10-14; and claim 36, lines 8-14 require the invention to compare an input from a user to information from seat sensors, prompt the user to verify their input, and receive the verification from the user. This is not taught in the specification or drawings as originally filed. Paragraph [0016] of the specification

teaches "the navigation system may provide for the sensed number of occupants to be modified by the driver or passenger to account for inaccuracies, such as non-human load placed in a seat and possibly triggering the sensor." This does not teach comparing the inputs from the user and sensors, prompting for a verification, or receiving said verification.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claims 1, 3, 5, 7, 9, and 15-22** are rejected under 35 U.S.C. 102(b) as being anticipated by Inoue et al (US Patent No. 6,295,503).

Inoue et al teaches:

Re claim 1. A vehicle navigation system comprising:

a processor (vehicle mounted navigation system 20, Figure 1) configured to store a high occupancy vehicle (HOV) restriction value for a section of road (column 6, lines 41-50) and configured to receive information from a plurality of seat occupancy sensors each configured to determine whether a respective seat is occupied, where the information is indicative of a number of occupied seats in the vehicle (passenger number sensor 27, Figure 1);

where the processor is configured to receive an input from a user indicative of the number of occupants in the vehicle (column 10, lines 46-57);

where the processor is configured to compare the information from the plurality of seat sensors to the input from the user (column 10, lines 46-65);

where the processor is configured to prompt the user to verify the input from the user in response to the comparison of the information from the plurality of seat sensors to the input from the user being indicative of the number of occupants being different from the number of occupied seats (column 10, lines 46-65);

where the processor is configured to receive the verification of the input from the user (column 10, lines 46-65);

where the processor is configured to compare the verified input to the HOV restriction value of the section of road (column 6, lines 28-34); and

where the processor is configured to determine a route as a function of the comparison of the verified input to the HOV restriction value of the section of road (column 6, lines 28-34).

Re claim 3. Where each of the plurality of seat occupancy sensors is configured to generate a respective signal indicative of whether a respective seat is occupied, and where each of the seat occupancy sensors is configured to provide the respective signal to the processor (passenger number sensor 27 to ECU 36, Figure 1).

Re claim 5. Where the HOV restriction value for a section of road is provided via wireless connection (column 5, lines 43-63; the information sensor transmits traffic regulations to the vehicle mounted navigation system wirelessly).

Re claim 7. Further including a display coupled to the processor, where the processor is configured to generate a map distinguishing the existence of an HOV restriction value for a section of road from at least one section of road without an HOV restriction value and displays the map on the display (column 4, lines 1-6; column 6, lines 41-50; the display displays map data inputted from the map data input unit 24, which includes carpool lane data and normal road data).

Re claim 9. Further including a speaker coupled to the processor, where the processor is configured to generate a sound played via the speaker indicating a route recommendation based on the comparison (column 4, lines 7-8).

Re claim 15. A method for navigating a vehicle, the method comprising:

retrieving a high occupancy vehicle restriction value for a section of road (column 6, lines 41-50);

receiving occupancy information from a plurality of occupancy sensors, where each of the occupancy sensors is configured to determine whether a seat in the vehicle is occupied, and where the occupancy information is indicative of a number of occupied seats in the vehicle (passenger number sensor 27 to ECU 36, Figure 1);

receiving an input from a user, where the input is indicative of a number of occupants in the vehicle (column 10, lines 46-65);

comparing the occupancy information from the plurality of occupancy sensors to the input from the user (column 10, lines 46-65);

prompting the user to verify the input when the comparison indicates that the number of occupants is different than the number of occupied seats (column 10, lines 46-65);

receiving verification of the input from the user (column 10, lines 46-65); and

determining whether the vehicle is authorized to traverse the section of road based on a comparison of the high occupancy vehicle restriction value to the verified input (column 6, lines 28-34).

Re claim 16. Further comprising the step of storing the high occupancy vehicle restriction value (column 6, lines 41-50).

Re claim 17. Further comprising storing a digital map that includes the high occupancy vehicle restriction value (column 3, lines 45-52; and column 6, lines 41-50).

Re claim 18. Where determining whether the vehicle is authorized includes determining whether the verified input is at least equal to the high occupancy vehicle restriction value (column 6, lines 28-34).

Re claim 19. Further comprising determining a route to a destination based on the comparison (column 6, lines 28-34).

Re claim 20. Further comprising determining a route that includes the section of road where the vehicle is authorized to traverse the section of road (column 6, lines 35-37).

Re claim 21. Further comprising determining a route that excludes the section of road where the vehicle is not authorized to traverse the section of road (column 7, lines 62-67).

Re claim 22. Further comprising generating a map indicating the existence of the high occupancy vehicle restriction value for the section of road, and displaying the map on a display (column 4, lines 1-6; column 6, lines 41-50; the display displays map data inputted from the map data input unit 24, which includes carpool lane data).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 10, 14, 25-27, and 36-38** are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (US Patent No. 6,295,503) in view of Petzold et al (US Publication No. 2003/0225508).

Inoue et al teaches:

Re claim 10. A navigation system for a vehicle comprising:

a plurality of seat occupancy sensors, where each of the plurality of seat occupancy sensors is coupled to a respective seat in the vehicle and configured to generate an occupancy signal indicating whether the respective seat is occupied (column 3, lines 60-67);

a processor (vehicle mounted navigation system 20, Figure 1) coupled to the plurality of seat occupancy sensors and configured to store a high occupancy vehicle restriction value for a section of road (column 6, lines 41-50); and

a display coupled to the processor, where the processor is configured to generate a map visually indicating the high occupancy vehicle restriction value for the section of road and configured to display the map on the display (column 4, lines 1-6; column 6, lines 41-50; the display displays map data inputted from the map data input unit 24, which includes carpool lane data);

where the processor is configured to receive the occupancy signals, determine a number of occupants in the vehicle based on the occupancy signals, and compare the number of occupants in the vehicle to the high occupancy vehicle restriction value for the section of road (column 6, lines 28-34);

where the processor is configured to determine a plurality of routes from an origin to a destination, where at least one of the routes is based on the comparison of the number of occupants in the vehicle to the high occupancy vehicle restriction value for the section of road (Figures 4 and 8 show calculating multiple ways of arriving at a destination based on the vehicle occupancy).

Re claim 25. A navigation system for a vehicle comprising:

- a seat occupancy sensor (passenger number sensor 27, Figure 1);

- a processor coupled to the seat occupancy sensor (ECU 36, Figure 1);

- a display coupled to the processor (display 28, Figure 1);

where the processor includes a program of instructions on a computer-readable medium (ECU 36, Figure 1) comprising:

- instructions to retrieve a high occupancy vehicle restriction value for a section of road (column 6, lines 41-50);

- instructions to receive an occupancy signal from the seat occupancy sensor (passenger number sensor 27 to ECU 36, Figure 1);

- instructions to determine a number of occupants in the vehicle based on the occupancy signal (column 3, lines 60-67);

- instructions to compare the high occupancy vehicle restriction value to the number of occupants (column 6, lines 28-34);

- instructions to determine whether the vehicle is authorized to traverse the section of road based on the comparison (column 6, lines 28-34);

instructions to generate a map indicating the high occupancy vehicle restriction value for the section of road and to display the map on the display (column 4, lines 1-6; column 6, lines 41-50; the display displays map data inputted from the map data input unit 24, which includes carpool lane data);

instructions to determine a plurality of routes from an origin to a destination, where at least one of the routes is a function of the comparison of the number of occupants in the vehicle to the high occupancy vehicle restriction value for the road (Figures 4 and 8 show calculating multiple ways of arriving at a destination based on the vehicle occupancy).

Re claim 36. A navigation system for a vehicle comprising:

a processor (vehicle mounted navigation system 20, Figure 1) configured to store an high occupancy vehicle restriction value for a section of road (column 6, lines 41-50) and configured to receive information from a plurality of seat occupancy sensors each configured to determine whether a respective seat is occupied, where the information is indicative of a number of occupied seats in the vehicle (passenger number sensor 27, Figure 1);

where the processor is configured to receive a first input from a user indicative of the number of occupants in the vehicle (column 10, lines 46-65);

where the processor is configured to compare the information from the plurality of seat sensors to the first input from the user (column 10, lines 46-65);

where the processor is configured to prompt the user to verify the first input from the user in response to the comparison being indicative of the number of occupants being different from the number of occupied seats (column 10, lines 46-65);

where the processor is configured to receive the verification of the first input from the user (column 10, lines 46-65);

where the processor is configured to compare the verified first input to the high occupancy vehicle restriction value of the section of road (column 6, lines 28-34);

where the processor is configured to determine a plurality of routes, where the processor is configured to determine at least one route of the plurality of routes to include the section of road based on the comparison of the verified first input to the high occupancy vehicle restriction value of the section of road (Figures 4 and 8 show calculating multiple ways of arriving at a destination based on the vehicle occupancy);
and

a display coupled to the processor, where the processor is configured to generate a map to display the selected route and to visually distinguish the high occupancy vehicle restriction value of the section of road from other sections of road without a high occupancy vehicle restriction (column 4, lines 1-6; column 6, lines 41-50; the display displays map data inputted from the map data input unit 24, which includes carpool lane data and normal road data).

Inoue et al fails to specifically teach: **(re claim 10)** where the processor is configured to prompt a user to select one of the plurality of routes; **(re claim 25)**

instructions to prompt a user to select one of the plurality of routes; **(re claim 36)** where the processor is configured to prompt the user to select one of the plurality of routes and to receive a second input from the user indicative of the selected route; **(re claim 37)** where the processor is configured to generate a plurality of routes from an origin to a destination; and where the processor is configured to prompt the user to select one of the plurality of routes; **(re claim 38)** further comprising: generating a plurality of routes, where at least one of the plurality of routes is based on the comparison of the high occupancy vehicle restriction value to the verified input; and prompting the user to select one of plurality of routes.

Petzold et al teaches, at the abstract, Figure 6, and paragraph [0026], a navigation unit which calculates multiple routes to a destination and allows a user to select which route they desire so that a user may pick between a fast route, or an economical route. A prompt is inherent where user input is required.

In view of Petzold et al's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the navigation system as taught by Inoue et al, **(re claim 10)** where the processor is configured to prompt a user to select one of the plurality of routes; **(re claim 25)** instructions to prompt a user to select one of the plurality of routes; **(re claim 36)** where the processor is configured to prompt the user to select one of the plurality of routes and to receive a second input from the user indicative of the selected route; **(re claim 37)** where the processor is configured to generate a plurality of routes from an origin to a destination; and where the processor is configured to prompt the user to select one of the plurality of routes; **(re**

claim 38) further comprising: generating a plurality of routes, where at least one of the plurality of routes is based on the comparison of the high occupancy vehicle restriction value to the verified input; and prompting the user to select one of plurality of routes; since Petzold et al teaches calculating multiple routes for a user to choose from so that a user may select a fast route or an economical route depending on their preferences.

Inoue et al further teaches:

Re claim 14. Further including a speaker coupled to the processor, where the processor is configured to generate a sound played via the speaker indicating a route recommendation based on the comparison of the number of occupants to the high occupancy vehicle restriction value (column 4, lines 7-8).

Re claim 26. Where the processor includes a digital map that includes the existence of the high occupancy vehicle restriction value for the section of road (column 3, lines 45-52; and column 6, lines 41-50).

Re claim 27. Where the program of instructions further comprises instructions to determine at least one of a plurality of routes based on whether the vehicle is authorized to traverse the section of road (column 6, lines 35-37).

10. **Claims 8, 23, and 29** are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (US Patent No. 6,295,503) in view of Yamazaki (US Patent No. 2001/0021895).

The teachings of Inoue et al have been discussed above. Inoue et al additionally teaches:

Re claims 8, 23, and 29. Further including a speaker coupled to the processor (speaker 30, Figure 1).

Inoue et al fails to specifically teach: **(re claims 8, 23, and 29)** where the processor is configured to generate a sound indicating the existence of an HOV restriction value for a section of road and plays the sound via the speaker.

Yamazaki teaches, in the abstract and at paragraph 54, using the carpool lane guide section to output a vocal notification that the driver is to enter/exit a carpool lane, thus indicating the existence of a carpool lane.

In view of Yamazaki's teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the navigation system as taught by Inoue et al, **(re claims 8, 23, and 29)** where the processor generates a sound indicating the existence of an HOV restriction value for a section of road and plays the sound via the speaker; since Yamazaki teaches verbally alerting a driver that they should be entering an HOV lane so that the driver can quickly and effectively reach their destination.

11. **Claims 13, 24, and 30** are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al (US Patent No. 6,295,503) as modified by Petzold et al (US Publication No. 2003/0225508) as applied to claims 10, 15, and 25 above and further in view of *Traffic sign enabled global positioning system (GPS) based navigation system for vehicles*.

The teachings of Inoue et al have been discussed above. Inoue et al additionally teaches:

Re claims 13 and 30. Further including a speaker coupled to the processor (speaker 30, Figure 1).

Inoue et al fails to specifically teach: **(re claim 13)** where the processor is configured to generate a sound indicating the high occupancy vehicle restriction value for the section of road, and plays the sound via the speaker; **(re claims 24 and 30)** further comprising generating a sound, indicating the vehicle is not authorized to traverse the section of road based on the comparison, and playing the sound via a speaker.

Traffic sign enabled global positioning system (GPS) based navigation system for vehicles teaches enabling a navigation system to warn a user when they are about to violate a traffic law, and informing a user of posted traffic laws such as speed limits (first sentence of last paragraph).

In view of *Traffic sign enabled global positioning system (GPS) based navigation system for vehicles*' teachings, it would have been obvious to one of ordinary skill in the art at the time of the invention to include, with the navigation system as taught by Inoue

et al, (**re claim 13**) where the processor generates a sound indicating the high occupancy vehicle restriction value for the section of road, and plays the sound via the speaker; (**re claims 24 and 30**) further comprising generating a sound, indicating the vehicle is not authorized to traverse the section of road based on the comparison, and playing the sound via a speaker; since *Traffic sign enabled global positioning system (GPS) based navigation system for vehicles* teaches informing a user of posted traffic laws and warning a user when they are about to violate a traffic law, which will prevent the user from incurring tickets, and Inoue et al already determines HOV requirements and which roads a driver may use and suggests using audio prompts so that a user will not have to look at the display at column 4, lines 13-16.

Response to Arguments

12. Applicant's arguments, see page 11, filed 7/30/2009, with respect to the objections to the specification and claim objections have been fully considered and are persuasive. The objections to the specification and claims has been withdrawn.
13. Applicant's arguments filed 7/30/2009 have been fully considered but they are not persuasive.
14. Applicant argues on page 13 that Inoue fails to teach "any 'processor' that is 'configured to compare information from the plurality of seat sensors to the input from the user.'" However Inoue et al teaches receiving both an input from a passenger number sensor and input from a user through the operation switches at column 10, lines

46-50. One of these values must be used and deciding which to use can be considered comparing the values.

15. Applicant argues on page 13 that Inoue fails to teach "where the processor is configured to prompt the user to verify the input from the user in response to the comparison of the information from the plurality of seat sensors to the input from the user being indicative of the number of occupants being different from the number of occupied seats." However Inoue et al teaches receiving both sensor signals and user input signals at column 10, lines 46-50, and if these signals correspond, this may be considered a verification of the input data.

16. Applicant argues on page 13 that Inoue fails to teach comparing the verified input to the HOV restriction value because Inoue does not teach a comparison which produces this verified input. As discussed above, Inoue does teach this verified input.

17. Applicant argues on page 14 that Inoue fails to teach a "map visually distinguishing the existence of an HOV restriction value for a section of road from at least one section of road without an HOV restriction." However as discussed above in reference to claim 7 Inoue teaches at column 4, lines 1-6 that the display displays map data inputted from the map data input unit 24, and at column 6, lines 41-50 that the data includes a "link class" which is data regarding whether the road is a carpool lane, or a normal road, or a high way, or a toll road. Thus Inoue teaches a display which displays the kind of road which each road is.

18. Applicant argues on pages 15-16 that Inoue does not teach the newly added limitations of claim 10, however Inoue teaches calculating multiple ways of arriving at a

destination based on the vehicle occupancy at Figures 4 and 8. Additionally Petzold teaches a navigation unit which calculates multiple routes to a destination and allows a user to select which route they desire so that a user may pick between a fast route or an economical route at the abstract, Figure 6, and paragraph [0026]. A prompt is inherent where user input is required because a user must have a place to enter the required data, and it is well know to provide prompts when input is required so that a system can operate in a user friendly manner.

19. Applicant further argues that the remaining claims are patentable for the reasons argued above; however these arguments have been addressed.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SPENCER PATTON whose telephone number is (571)270-5771. The examiner can normally be reached on Monday-Thursday 7:30-5:00; Alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571)272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SPENCER PATTON/
Examiner, Art Unit 3664
/KHOI TRAN/
Supervisory Patent Examiner, Art Unit 3664